

Channel Islands National Marine Sanctuary Marine Reserves Working Group Meeting

Tuesday, July 18, 2000
8:30 A.M. — 5:00 P.M.
UCSB's University Center
Flying A Studio, Santa Barbara, California

Meeting Summary

In Attendance:

Patty Wolf, Co-Chair
Matt Pickett, Co-Chair
Locky Brown
Marla Daily
Gary Davis
Robert Fletcher
Dr. Craig Fusaro
Dale Glantz
Neil Guglielmo
Greg Helms
Mark Helvey
Deborah McArdle
Dr. Michael McGinnis
Chris Miller
Tom Raftican
Steve Roberson
Alicia Stratton

Michael Eng, Facilitator
John Jostes, Facilitator

Staff from CINMS, NOAA Headquarters and other Sanctuaries: Dr. Satie Airame, Sean Hastings, Mettja Hong, Mike Murray, Reed Bohne, Becky Shortland, June Bradick, Stephanie Campbell, Kate VanDine, Kim Benson, Jennifer Ludlow, Liz Moore and Mike Murphy

Members of the Science Panel:
Dr. Bob Warner, Dr. Stephen Schroeter, Dr. Bruce Kendall, Dr. Matthew Cahn, and Dan Richards, Dr. Craig Barilloiti

Members of the public

1. **Welcome and Introductions:** The meeting opened up with an introduction from John Jostes who reviewed the agenda and emphasized the importance of flexibility in this process.
2. **Adopt Meeting Summaries from 6/8/00 and 6/22/00:** John Jostes led the group in a review of the June meeting summaries. A variety of minor changes were noted and the summaries accepted. Key points were:

June 8, 2000

- Re: pg. 6, Item 9 — Chris Miller's final comment and first sentence should read, Asked if the MRWG will accept the NCEAS model.
- Re: pg. 7, Ecosystem Biodiversity, Objective 2 should read, To identify and protect multiple levels of diversity (e.g. species, habitats, representations from biogeographic provinces, trophic structure).

June 22, 2000

- Re: pg. 3, Rockfish, the last bullet should read, The shallow fish are generally harvested by recreational fishermen.
- Re: pg. 4, Item 4, 1st paragraph, last sentence should read, He emphasized the importance of allowing MRWG members enough time to go back to their constituents once the reserve scenarios are drawn.

3. **Process Overview:** John Jostes reviewed the memo that he had sent out to the MRWG regarding process issues. He also handed out and reviewed the revised flow chart of the MRWG process. He noted that he added a more definite reference to community input and forums.
4. **Open Discussion Period:** John Jostes and Michael Eng led the group in an open discussion of meeting topics. The following topics were raised during this time:
 - Evaluation of information presented
 - Community input
 - Compatibility of goals and objectives
 - Constituent review of options

- Science Panel review of metrics for objectives
- Sequencing of criteria and option development - Whose drawing lines first?

Community Input

Greg Helms believes that the MRWG's current community input efforts have been unsatisfactory. He feels that the MRWG needs to build an understanding of why this marine reserves process is occurring. Chris Miller concurred that there is not enough communication between the MRWG and the public. He added that there is a misunderstanding about reserves and how science will be applied.

Co-chair Patty Wolf suggested that the co-chairs create an editorial piece or a press release on the MRWG process and the adopted problem statement. Tom Raftican believes that the MRWG needs a community education process and that a press release may not be sufficient. Mark Helvey suggested that a press release be created after every meeting. Rather than having the full responsibility of outreach lay on the Sanctuary, Michael Eng suggested that the community outreach subcommittee work outside of the regular MRWG meetings to develop a strategy on outreach.

Constituency Review of Options

Patty Wolf emphasized the importance of allowing enough time after the first serious set of reserve options have been developed to go back to the MRWG's constituents. She suggested that this discussion be continued later in the day.

Compatibility of Goals and Objectives

Dr. Michael McGinnis feels that the MRWG needs a shared understanding of the goals and objectives. He emphasized the importance of community restoration and partnerships. This topic was further discussed later in the day.

Evaluation of Information Presented

Chris Miller emphasized the need for a cursory discussion after each presentation to the MRWG to synthesize the products. Sean Hastings reported that some of the information that was presented to the MRWG was still in Press when presented (NCEAS literature review) and some of the information is still being revised (Status of Resources Report). Deborah McArdle fears that if the MRWG starts evaluating the information after each presentation, it would take up a lot of the MRWG's time. Most of the MRWG, however, felt that evaluation of the information was needed.

5. **Finalize and Adopt Remaining Goals and Objectives:** Chris Miller requested that the Sustainable Harvested Populations goals and objectives be revisited. He felt that there was a staff error in editing the goal, that more information has been found, and that the MRWG didn't spend enough time evaluating it. Chris was not sure how the goal and objectives fit into this process and he felt that they were not meeting his interests. He suggested that the Sustainable Harvested Populations goal be changed to read, Adaptive management of harvested populations for sustainability, using the definitions of adaptive management and sustainability from the Marine Life Management Act (MLMA). Both Chris and Greg Helms met over lunch to recraft this goal and objective. They came up with preliminary revisions to language and agreed to make further refinements following the meeting. These revisions will be distributed to MRWG members.

Natural and Cultural Heritage

Bob Fletcher noted that the compatibility of the goals and objectives should be considered. Dr. Mike McGinnis added that the challenge that the MRWG faces is how they are going to weight the different goals. Gary Davis likes the weighting idea, but cautions that using the words maximum and minimum can get you in trouble. Greg Helms also cautioned that weighting should not be used to deconstruct and create just one reserve. He prefers multi-purpose reserves.

Chris Miller suggested that this goal be changed to say, Provide and preserve intrinsic value of unharvested areas for human enjoyment. Marla Daily was also concerned about the elimination of the word spiritual in Chris' suggestion. Deborah McArdle added that spiritual was included in this goal because there are reasons behind reserves other than resource use. She believes that the public will relate to this idea. Discussion ensued regarding the use of the word spiritual in this goal. The MRWG agreed to keep spiritual in the language.

Based upon this discussion, the Natural and Cultural Heritage Goals and Objectives were revised and adopted by consensus as follows:

Natural and Cultural Heritage

To maintain areas for visitor, spiritual, and recreational opportunities which include cultural and ecological features and their associated values.

Objectives —

- 1. To conserve exceptional ecological and cultural resources that stimulate and encourage human interaction with the marine environment and promote recreational activities.*
- 2. To conserve outstanding areas that encompass seascape, adjoining coastal landscapes, or possesses other scenic and visual wilderness qualities.*
- 3. To maintain submerged remnants of past life that are of special historical, cultural, archeological, or paleontological value.*
- 4. To maintain areas of particular importance that support traditional non-consumptive uses.*
- 5. To provide opportunities for outdoor recreation as well as the pursuit of activities of a spiritual or aesthetic nature.*
- 6. To facilitate ease of access to natural features without compromising their value or uniqueness.*

Education

A number of members offered suggestions to improve the Education Goals and Objectives. Chris Miller suggested that the goal be changed to read, To teach marine stewardship skills and protect biodiversity and the heritage of California seafaring culture to build awareness and education. Gordon Cota supported Chris suggestion and added that he likes the idea of showing the history of the seafaring watermen s relationship with the ocean. Bob Fletcher believes that Chris suggestion goes beyond marine reserves. Craig Fusaro concurred with Bob in that an education program should include the seafaring culture, but this process isn t the right place to do so. He added that the specific content of an education program should not be included in the goals.

Patty Wolf suggested that the two goals be combined. After input from several MRWG members, the goals related to Education were revised and adopted by a consensus of the group. They read as follows:

Education

To foster stewardship of the marine environment by providing educational opportunities to increase awareness and encourage responsible use of resources.

Objectives —

- 1. To develop and distribute offsite interpretations and displays allowing indirect observation, study and appreciation of marine resources.*
 - 2. To provide current pamphlets, project ideas and worksheets for use on and offsite.*
 - 3. To promote personal and organized visits for direct observation and study.*
 - 4. To link monitoring and research projects to support classroom science curriculum.*
- 6. Update from Science Panel:** Dr. Satie Airame provided the MRWG with an update from the Science Panel. She reported that the Science Panel has evaluated the Ecosystem Biodiversity and Sustainable Harvested Populations goals and has developed a list of ecological criteria. The Science Panel will need to consider the distribution of habitats, biodiversity, complex biogeographic structure, areas that are declining/vulnerable habitats, important habitat for feeding/spawning, the export function, level of human threat, and areas that are vulnerable to environmental catastrophes.

Criteria

Satie reported that each criterion will be used to make a recommendation that addresses some objectives, the current state of the ecosystem, and the amount set aside. She noted that the Science Panel does not have a lot of knowledge on such as larval dispersal and that they cannot guarantee a sustainable population in the future, but can guarantee a current representation of habitats and populations associated with those habitats. Dr. Matthew Cahn added that there is a concern among the Science Panel that with the best available knowledge, they are still unable to guarantee that a reserve area will support sustainable populations; however, there is a strong desire to use the ecological criteria to optimize success.

Satie also reported that the Science Panel is seeking biogeographic representation. The boundaries of each biogeographic province were developed based on a 25-year data set of species distributions and a five-year data set of sea surface temperature. The Science Panel recommended that east Santa Cruz Island be grouped with Anacapa Island as part of the Californian biogeographic province. San Miguel, northern Santa Rosa, and northern Santa Cruz Islands share biological characteristics of the Oregonian province. Southern Santa Rosa, southern Santa Cruz, and Santa Barbara Islands form a transition between the 2 biogeographic provinces. Satie also reported that the Science Panel will analyze the three different provinces separately in order to provide adequate representation in each province.

Dr. Michael McGinnis asked Satie if the Science Panel is considering ocean climate changes in their model. Satie replied that they are, but added that the best way to address regime shifts is to place reserves across a greater area.

Computer Optimization Model

Satie reported that the area that the Science Panel is considering is within the current Sanctuary boundaries and has been broken up into cells that are 1... latitude by 1... longitude. Each cell is characterized using each of the ecological criteria (e.g. biogeographic province, substrate, depth, etc). The model will identify cells that have the highest value for conservation and fisheries enhancement. After 1000 iterations of the model with a particular set of criteria, the Science Panel will select the cells that are chosen consistently for high conservation value and the potential for fisheries enhancement. The outcome of the model optimization will come to the MRWG in a synthesized form. Dr. Bob Warner noted that at the last Science Panel meeting Dr. Joan Roughgarden emphasized that this is a static model, which provides an optimal solution that is a snapshot in time.

Habitat Representation and Heterogeneity

The Science Panel would like to include representative habitats and are currently addressing the following topics: 1. What is the definition of a marine habitat?, 2. What is the total area in each biogeographic region?, 3. The Science Panel would like to protect habitat in more than one area to minimize the likelihood that environmental or human-induced changes will negatively impact habitats and populations within reserve sites, and 4. The Science Panel is considering rare habitats.

Satie feels that the Science Panel is making great progress in defining habitat. Substrate data were collected from the California Coastal Commission and the USGS. Substrate will be divided into soft (sand, mud, and gravel) or hard (boulder and bedrock). Each cell is characterized by the percentage of hard and soft substrate. Bathymetry was divided into 4 biologically meaningful intervals: 0-30 m, 30-100 m, 100-200 m and >200m.

Giant Kelp Distribution

The Science Panel is considering the area of potential kelp habitat per cell based on a 10-year composite data set based on aerial photographs from 1980-1989.

Sustainable Harvested Populations

Satie reported that the Science Panel feels that, in order to provide a buffer against impacts of environmental fluctuations they need to protect populations of harvested populations or set aside habitat to support associated populations; however, the Science Panel has limited data. Therefore, they discussed the possibility of using the socioeconomic data in addressing this goal. Both Matt Pickett and Bob Fletcher agreed that it would be more productive to allow the Science Panel to use the socioeconomic data, but cautioned that the fishermen need to know how the data will be used. Bruce Steele believes that if the socioeconomic data is given to the Science Panel, it will change the scope of why the participants in the socioeconomic study were releasing their

information. Dr. Craig Barilotti asked the Science Panel to send him a proposal and he will ask the Fishermen's Data Review Committee. The Science Panel can proceed with habitat-based modeling, but the fishermen catch data would be helpful.

Ecosystem Linkages

Satie stated that linkages are often defined as the flow of materials, such as, larvae or detritus. The Science Panel will evaluate the potential of flow between potential reserve sites. Dr. Bob Warner added that the Science Panel doesn't have a lot of information on the export function.

Human Threats

The Science Panel is considering areas where human threat is moderate. They are seeking representation of areas that are used and areas that are not used.

Natural Catastrophes

The Science Panel recommends using set-asides to evaluate the impacts of environmental fluctuations and extreme natural events, e.g. El Nino.

Reserve Size

Establishing reserve size requires numerous trade-offs between export function of the reserve, population viability within the reserve, potential impacts of disturbance on populations and habitats within the reserve, and the feasibility of enforcement of reserve regulations.

The Science Panel will eventually recommend a minimum threshold size for conservation of biodiversity and export of larvae and adults. Dr. Bob Warner asked the MRWG how big an area they would like to service. Bruce Steele replied that the MRWG needs to have an understanding of the effectiveness of different reserve sizes. Chris Miller added that research should be the starting point to determine if a given reserve size supports sustainable populations.

Satie concluded by noting that the computer-modeling program may add cells that have low conservation value in order to minimize the boundary length. She also reported that the Science Panel will not be prepared to present their conclusions to the MRWG until September 26, 2000.

John Jostes concluded the discussion by asking the group to characterize what they had just learned from the Science Panel update. The following comments were offered:

Locky Brown: My feeling of a common understanding is that this is a transition area and many facets must be considered when designing reserves.

Marla Daily: Common understanding: The Science Panel will integrate the best available data (with or without fishermen's data) to provide the best identifiable reserve design areas to the MRWG.

Gary Davis

- § The presentation was clear and informative.
- § The information was consistent with other information on the same topics.
- § The process the Science Panel has developed seems logical and should produce useful products.
- § My comfort level with the Science Panel and the MRWG process was increased.

Robert Fletcher

- § The Science Panel can use computer-generated models to provide candidate sites based on sediments, kelp, and oceanic conditions, i.e. temperature, but has a need for resource distribution information from fishermen.
- § Habitat-based recommendations are not optimal, but are good baseline data to start MRWG deliberations. The MRWG will then be free to make its political decisions - networks of marine reserves are not a foregone conclusion!
- § Remember to look at the big picture and the other processes that are in place!

Craig Fusaro

- § A very good start at responding to the task requested.

- § A recognition that outcome must be viewed adaptively and may change with required research and monitoring.
- § A heads-up to get and attempt to understand the assumptions and logic of the model so as to correctly interpret its outcomes.

Dale Glantz

- § 3 biogeographic regions (provinces) have been identified by the Science Panel that need to be adequately represented by reserves.
- § The Science Panel is looking specifically at habitats in the following 3 depth ranges 0-30 m, 30-100 m, and 100-200 m.
- § The Science Panel strongly believes that more than one reserve is needed in each habitat or biogeographic region to adequately replicate areas.
- § Depending on the size, it appears the Science Panel is looking at at least 6 no-take reserves to adequately meet the objectives currently before them.

Neil Guglielmo: A reserve in each of the zones (3) also sounds like a satellite of reserves so larval flow would flow to other protected areas.

Greg Helms

- § The Science Panel will propose a reserve design that covers all the bases, and then some.
- § We can't fully deal with climate change or the global environment.
- § We don't know where the fish are, but we can extrapolate.

Mark Helvey: Is there sufficient information for either the habitat-based approach or the species-distribution approach to allow MRWG to form its recommendation or do we want to superimpose both approaches?

Deborah McArdle: The Science Panel has made significant strides in collecting and synthesizing the valuable baseline data needed by the MRWG to design an ecologically adequate system of reserves.

Michael McGinnis, Ph.D.: Based on the criteria of the protection of an ecosystem and sustainable harvested populations, Satie and the Science Panel identified information and data on habitat and species distribution which will be the basis for the development of a range of options on reserve design (placement and location) that represents 3 biogeographical provinces.

Chris Miller: Percentage of habitats will be spaced as reserve options in 3 zones that represent habitat characteristics that are not quite defined as yet. Satie is not a good tap dancer.

LCDR Matt Pickett

- § 3 biogeographic zones requiring representation
- § Static model (snapshot of where we are now)
- § The Sustainable Harvested Populations goal would be better addressed with information from commercial fisheries.
- § Model is up and running
- § 10-50% is the range of the model runs
- § Satie needs a raise

Tom Raftican

- § After waiting a year for the recommendations of the Science Panel, we find that the fishermen actually have the best data.
- § The computer will select blocks based on a point system — instead of looking at the unique geographic features, i.e. reefs.
- § The MRWG should be changed to MRNWG (marine reserves network working group).

Steve Roberson: The Science Panel should make specific recommendations using size and locations for a reserve network. Don't just provide data but present several potential reserve scenarios including one that maximizes protection of rockfish and nearshore fish species. Our group will then make the tradeoffs, i.e. user impacts in making the choices.

Alicia Stratton

- § Blocks have been assigned values by the Science Panel to help determine optimal areas for potential MRWG-generated goals as criteria.
- § There are 3 biogeographic zones included.
- § There are various selection criteria that the MRWG have been given for future use. We will definitely need these.
- § They are tying our biodiversity and sustainable harvested population goals into this criterion.
- § Climate changes cannot necessarily be addressed.

Patty Wolf

- § The Science Panel can characterize ecological features by habitat data; species distribution information is lacking, but can be inferred from existing information.
- § They can model reserve options for the MRWG to consider that includes major biogeographic zones and habitat types.
- § This is a snap shot, but a good start; additional information can address possible regime shifts.

7. Goals and Objectives Revisited:

The facilitators reviewed the remaining goals and objectives that had not previously been evaluated by the full group and, in the interests of time, asked the MRWG for their comments and suggestions. The following suggestions were made regarding the following two goals and their associated objectives:

Socioeconomics

- Goal - include the economic viability of fisheries
- Goal — include a modeling reduction of economic impact
- Goal — include the economic productivity of fisheries
- Goal — Change to say, To achieve long-term economic productivity with no net loss to all users.
- Obj. 1 — address all consumptive users
- Obj. 2 — add quantify and percentage
- Obj. 3 — add and evaluate after monitor
- Add an objective that incorporates the design and implementation of a monitoring program
- Add an objective to say, To promote local fisheries that can support essential ecosystem goods and services.
- Add an objective that incorporates stock assessment inside and outside reserves
- Objectives are too vague
- Keep objectives measurable
- Learn from Florida Keys

Reserve Administration

The following suggestions were made regarding these goals and objectives:

- Add a goal to say, To achieve effective agency coordination and accountability, adequate funding, and appropriate enforcement practices to achieve the goals and objectives of the marine reserves.
- Specify which adaptive agencies are in the MOU
- Add an objective under Enforcement to say, Consistent application/enforcement of regulations across agencies.
- Needs to be a consistency in the interpretation of the regulations
- Need direct access with Congress and the legislature, i.e. Ombudsman
- Goals need to be realistic
- Add an objective to require that all agencies involved in this process, report on their funding contributions
- Address transiting through the reserve
- Consider the creation of a regional fisheries trust
- Establish performance criteria to evaluate management effectiveness
- Create a bio-assessment protocol
- Require a dedicated funding stream
- Include state of the art resources for enforcement
- Consider spatial implications of enforcement capabilities

- Consider combining the MOU with the one in funding
- Under Enforcement, Obj. 3, change community-based peer review group to community enforcement program.

John Jostes then indicated that these comments would be integrated into "next generation" revisions and distributed to the MRWG for their review prior to final changes and adopting them at the August meeting.

8. **Inclusion/Exclusion Areas:** Chris Miller made a brief presentation on inclusion/exclusion areas that had been developed with input from commercial fishing interests. He handed out maps showing specific 1 x 1 mile areas that were preferred for either inclusion or exclusion. He indicated that he would like to make a more in depth presentation at the August meeting.

9. **Next Steps:**

Because the Science Panel will be unable to present its findings to the MRWG in August, the MRWG decided to limit its meeting to August 22nd and leave August 23rd for the subcommittees to meet. At the August 22nd meeting, the MRWG is expected to:

1. finalize and adopt remaining goals and objectives;
2. Receive findings from the Socioeconomic Team;
3. Consider weighting factors to be used in crafting a recommendation regarding the spatial extent of reserves;
4. Hear additional presentations regarding inclusion/exclusion areas; and,
5. Receive an update from the Co-Chairs regarding the Press Release and related outreach efforts.

The following people were added to the various subcommittees:

Enforcement: Coordinator — Jorge Gross and Bob Fletcher

Public and Constituent Outreach: Coordinator — Dr. Craig Fusaro, Patty Wolf, and Deborah McArdle.
Note: Marla Daily will not serve on this subcommittee

Implementation: Coordinator — John Ugoretz

The Facilitation Team was directed to work with Subcommittee chairs and their respective members to maximize the productivity of the anticipated meetings scheduled for August 23rd.

10. **Final Comments:** Participants were asked to offer their observations of the day's meeting and made the following remarks:

Gary Davis: The MRWG is making progress and doing fine.

Greg Helms: The fisheries data was interesting. Awaiting the Science Panel discussion.

Marla Daily: Chugging along.

Mark Helvey: The MRWG stepped backwards in the morning, but made up for it in the afternoon.

Locky Brown: Disappointed that the Science Panel is moving towards a greater number of reserves.

Steve Roberson: Chris e-mail is greater than Chris.

Deborah McArdle: Hopes to stay on track.

Dale Glantz: Showed a lot of flexibility with the agenda. Interested in the Science Panel and surprised with the direction that they're going.

Dr. Mike McGinnis: Thanked the Science Panel for attending the meeting. Hopes to continue to work together.

Chris Miller: Pleased that the MRWG is going to start talking about things that he has to talk to about with his constituents. Feels that certain issues need to be dealt with so that the MRWG can get consensus. He has to deal with a rougher commentary.

Tom Raftican: Thanked the Science Panel for an excellent job at assembling the pieces together. Mentioned that there is a tremendous involvement with everyone in the group on this process and emphasized that we are all working towards the same goal. Thanked Chris for bringing up contentious topics.

Alicia Stratton: Thanked Mark for bringing up the public outreach void. Felt like there was unfinished business from the last public forum.

Matt Pickett: Thanked everyone, including the Science Panel. Mentioned that it is heartening to see new relationships developing.

Dr. Craig Fusaro: Happier with honest and open dialogue on certain problems. If the MRWG continues at this level, listens carefully, and deal with it now, they ll make progress at each meeting. We re not quite through what we said we were getting through with regards to Chris issues. John will draft it. Don t forget it. Appreciates the progress of the Science Panel.

Dr. Steve Schroeder: Acknowledged Satie s contribution.

Tim Allen, Victorian Coordinator of Marine and Coastal Community Network: Applauded the MRWG for such an open and transparent process. In Australia, they ve been debating about 23 no-take areas. Although they have been involved in this process for 8 years, there is still a long way to go for community support.

Patty Wolf: Liked the modification of the agenda. Thanked the Science Panel for the work that they ve done and are going to do. A scientifically based process is important. Satie is doing a great job. Thanked Chris and the MRWG for working through these issues and glad to see that the subcommittees are starting. Encouraged everyone to come in August.

Meeting adjourned at 5:00 p.m.

Summary of Action Items:

1. Adopted Revised Goals and Objectives related to "Education" and "Natural and Cultural Heritage"
2. MRWG to send additional comments on unadopted goals and objectives (Socioeconomic, Sustainable Harvested Populations, and Reserve Administration) to Facilitators or Sanctuary or DFG staff.
3. Tasked the Public Outreach Committee with developing a coherent public outreach strategy and report back to the MRWG with a framework for action.
4. Designated Craig Fusaro and a MRWG member of his choice to complete a "compatibility check" of goals and objectives for internal consistency.
5. Provided time for Subcommittees to meet on August 23rd.
6. Directed Facilitators to craft new language regarding Socioeconomic and Reserve Administration Goals and Objectives and distribute to MRWG in advance of August meeting.
7. Directed Co-chairs to create a press release regarding the recently adopted Problem Statement.

Future MRWG Meeting Dates:

August 22;
August 23 for Subcommittees;
September 26-27;
October 18, and;
November 15.